ABSTRACT OF THE DISCLOSURE

A system and method are described for reducing data transmission collisions in a shared transmission medium. In one embodiment, transmission priorities are set by means of priority-defining transmissions. In another embodiment, statistically equal access is assured by means of unique transmit start time slot pairs wherein the paired start time slots are substantially equally spaced in time from a center start time slot. In yet another embodiment, data transmission traffic analysis is used to set unique transmission start time slots or to select from pools of start time slots associated with classes of data to be transmitted, thus establishing relative preemption priorities. In still another embodiment, transmission begins in statically assigned start time slots that are subsets of an available array of transmission start time slots.